

CLAIMS:

We claim:

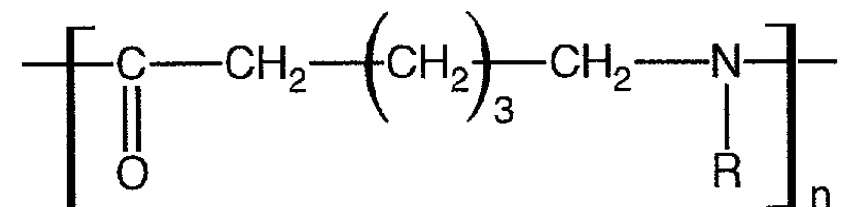
1. An endless seamed flexible belt comprising a first end and a second end, each of the first end and the second end comprising a plurality of mutually mating elements which join in an interlocking relationship to form a seam, the belt comprising a substrate and the seam comprising an adhesive comprising a polyamide.

2. An endless seamed flexible belt in accordance with claim 1, wherein said polyamide is an alcohol-soluble polyamide.

3. An endless seamed flexible belt in accordance with claim 2, wherein said alcohol-soluble polyamide comprises pendant groups selected from the group consisting of methoxy, ethoxy and hydroxy pendant groups.

4. An endless seamed flexible belt in accordance with claim 3, wherein said pendant groups are methylene methoxy pendant groups.

5. An endless seamed flexible belt in accordance with claim 1, wherein said polyamide has the following general formula :



wherein R is selected from the group consisting of hydrogen; alkyl having from about 1 to about 20 carbons, alkoxy having from about 1 to about 20 carbons, alkyl alkoxy having from about 1 to about 20 carbons, and alkylene alkoxy having from about 1 to about 20 carbons, and wherein n is a number of from about 50 to about 1,000.

6. An endless seamed flexible belt in accordance with claim 5, wherein R is a methylene methoxy group.

7. An endless seamed flexible belt in accordance with claim 1, wherein said adhesive further comprises an electrically conductive filler.

8. An endless seamed flexible belt in accordance with claim 7, wherein said electrically conductive filler is a quaternary ammonium salt.

9. An endless seamed flexible belt in accordance with claim 7, wherein said electrically conductive filler is selected from the group consisting of carbon fillers, metal oxide fillers, polymer fillers, charge transporting molecules, and mixtures thereof.

10. An endless seamed flexible belt in accordance with claim 9, wherein said electrically conductive filler is a carbon filler selected from the group consisting of carbon black, graphite, fluorinated carbon, and mixtures thereof.

11. An endless seamed flexible belt in accordance with claim 9, wherein said electrically conductive filler is a metal oxide filler selected from the group consisting of titanium dioxide, tin oxide, indium tin oxide, iron oxide, aluminum oxide, and mixtures thereof.

12. An endless seamed flexible belt in accordance with claim 9, wherein said electrically conductive filler is a polymer filler selected from the group consisting of polypyrrole, polyacrylonitrile, polythiophene, polyaniline and mixtures thereof.

13. An endless seamed flexible belt in accordance with claim 9, wherein said electrically conductive filler is a charge transporting molecule selected from the group consisting of bis(dihydroxy diethylamino) triphenyl methane, bis(diethylamino) triphenyl methane, dihydroxy tetraphenyl biphenylene diamine, and mixtures thereof.

14. An endless seamed flexible belt in accordance with claim 1, wherein said adhesive is crosslinked.

15. An endless seamed flexible belt in accordance with claim 14, wherein said adhesive is crosslinked using oxalic acid as a crosslinking agent.

16. An endless seamed flexible belt in accordance with claim 15, wherein said adhesive comprises an electrically conductive filler selected from the group consisting of carbon black, graphite, fluorinated carbon, silicon particles, and mixtures thereof.

17. An endless seamed flexible belt in accordance with claim 1, wherein said substrate comprises a polymer selected from the group consisting of polyimide and polycarbonate.

18. An endless seamed flexible belt in accordance with claim 17, wherein said polyimide is a polyaniline polyimide.

19. An endless seamed flexible belt in accordance with claim 1, wherein said seam has a volume resistivity of from about 10^1 to about 10^{13} ohms-cm.

20. An endless seamed flexible belt in accordance with claim 19, wherein said seam has a volume resistivity of from about 10^9 to about 10^{11} ohm-cm.

21. An endless seamed flexible belt in accordance with claim 1, wherein said belt is an intermediate transfer belt.

22. An endless seamed flexible belt in accordance with claim 1, wherein said plurality of mutually mating elements are in the form of a puzzle cut pattern.

23. An endless seamed flexible belt in accordance with claim 22, wherein said mutually mating elements comprise a first projection and a second receptacle geometrically oriented so that said second receptacle on the first end receives the first projection on the second end and wherein said first projection on said first end is received by said second receptacle on the second end to form a joint between the first and second ends.

24. An endless seamed flexible belt in accordance with claim 23, wherein said first projection and said second receptacle are curved.

25. An endless seamed flexible belt comprising a first end and a second end, each of the first end and the second end comprising a plurality of mutually mating elements which join in an interlocking relationship to form a seam, said belt comprising a polyimide substrate, and the seam comprising an adhesive comprising an alcohol-soluble polyamide and an electrically conductive filler.

26. An image forming apparatus for forming images on a recording medium comprising: a charge-retentive surface to receive an electrostatic latent image thereon; a development component to apply toner to the charge-retentive surface to develop the electrostatic latent image to form a developed image on said charge retentive surface; a transfer belt to transfer the developed image from the charge retentive surface to a copy substrate, wherein the transfer belt is an endless seamed flexible belt comprising a first end and a second end, each of the first end and the second end comprising a plurality of mutually mating elements which join in an interlocking relationship to form a seam, the transfer belt comprising a substrate and the seam comprising an adhesive comprising a polyamide; and a fixing component to fuse the developed image to the copy substrate.